

Course program

AOTrauma Course—Basic Principles of Fracture Management

May 11-13, 2018, Taichung, Taiwan



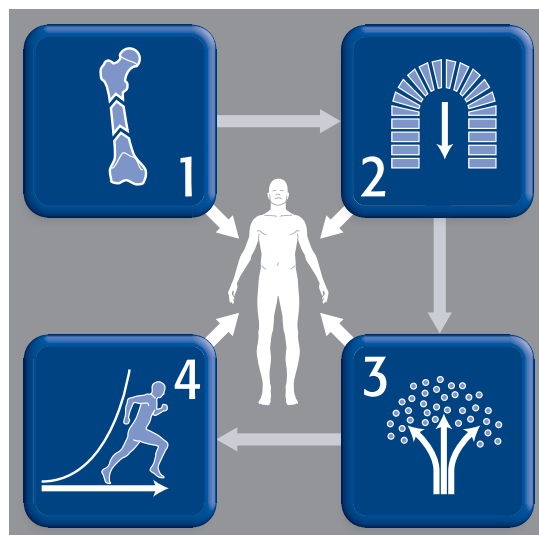
Value statement

AO Trauma is committed to improve patient care outcomes through the highest quality education. We strive to combine the right knowledge and surgical skills that empower the orthopedic and trauma surgeons to put theory into practice and to improve fracture management for the benefit of the patient.

The AO principles of fracture management

Fracture reduction and fixation to restore anatomical relationships.

Early and safe mobilization and rehabilitation of the injured part and the patient as a whole.



Fracture fixation providing absolute or relative stability, as required by the “personality” of the fracture, the patient, and the injury.

Preservation of the blood supply to soft tissues and bone by gentle reduction techniques and careful handling.

Dear AOTrauma course participant,

Welcome to the AOTrauma Course—Basic Principles of Fracture Management, which is planned and delivered to meet your needs using a competency-based curriculum approach and the AO's seven principles for high-quality education.

AO Trauma's innovative approach to education has been further strengthened as a result of the successful collaboration with the AO Education Institute in the application of state-of-the-art educational concepts in curriculum planning and all faculty development programs.

This course is one of our many educational activities for providing lifelong learning, from the Residents Education Program through to specialized Continuing Professional Development (CPD) for practicing surgeons and clinicians.

We believe that your active engagement in this course will result in improved care for your patients. Your current level of knowledge and skills will be challenged by the activities and throughout the entire event. We are confident that the combination of education principles and relevant content from our curriculum, as well as your interaction with colleagues and expert faculty will provide an effective learning experience that meets your needs.

This course is part of an overall competency-based educational program that includes many other activities and resources for self-directed learning. The educational activities in each program are developed by an international taskforce of clinical experts and educationalists and made available to you through the Education section of www.aotrauma.org.

We hope you enjoy the course and benefit from the networking opportunities it

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Wa'el Taha
Chairperson AOTrauma
Education Commission



Kodi Kojima
Chairperson AOTrauma
International Board

provides for you to share experiences with your colleagues.

If you enjoy the experience during your course and would like to stay in touch with the organization and its international network of surgeons, we invite you to become a member of AOTrauma. The benefits of membership, including options to get involved in new opportunities that advance trauma care are described at www.aotrauma.org.



Goal of the course

The AO Trauma Course—Basic Principles of Fracture Management teaches fundamental principles and current concepts in the treatment of injuries, incorporating the latest techniques in operative fracture management. The AO Trauma Basic Principles course is the initial step along the path of lifelong learning in the area of operative fracture management. This course mainly focuses on the basic principles of fracture management.

Target participants

The AO Trauma Course—Basic Principles of Fracture Management is targeted at physicians in surgical training but is also open to anyone else who is interested in furthering their knowledge and skills in operative fracture management.

Learning objectives

At the end of this course, participants will be able to:

- Discuss the concepts of stability, their influence on bone healing, and how to apply implants to achieve appropriate stability
- Plan a treatment based on assessment, imaging, classification, and decision making
- Apply reduction techniques in fracture management with attention to the importance of the soft tissues
- Treat diaphyseal and simple (peri)articular fractures using different application techniques
- Evaluate and recognize the special problems related to fractures in the immature skeleton, pelvic injuries, osteoporotic fractures, postoperative infection, delayed union and/or nonunion
- Plan the initial treatment of the polytraumatized patient

Course description

Online precourse self-assessment prepares participants for the course and allows the faculty to tailor the course to the needs of the participants. Before attending the course, participants are expected to complete online modules on bone healing and classification.

The course contains several evidence-based lectures, which cover the key information required. The AO Skills Lab engages participants in hands-on learning of basic principles and practical know-how needed for live surgery. With experiences such as proper tightening of a screw

and feeling the difference between drilling with sharp and blunt drill bits, participants gain important surgical skills and learn about basic biomechanical concepts in a safe, instructive environment. In practical exercises participants will be trained in the application of fixation techniques. Discussing cases in small groups helps participants to understand decision-making and management skills. After the course, an online postcourse self-assessment provides participants an opportunity to review the important topics from the course.

Chairperson



Chih-Hui Chen

Taichung Veterans General Hospital
Taiwan

Regional Faculty

| | | | |
|-------|----------|-----------|-----------------------------|
| Chong | Keen-Wai | Singapore | BJIOS Orthopaedics |
| Teng | Xing | China | BeiJing Ji Shui Tan Hospita |
| Wong | Tak Man | Hong Kong | Queen Mary Hospital |

Local Faculty

| | | | |
|------|-------------|--------|--|
| Chen | Chiang-Sang | Taiwan | Far Eastern Memorial Hospital |
| Chen | Jian-Chih | Taiwan | Kaohsiung Medica University Chung-Ho Memorial Hospital |
| Chou | Ying-Chao | Taiwan | Linkou Chang Gung Memorial Hospital |
| Hsu | Chin-Jung | Taiwan | China Medical University Hostipal |
| Kao | Hsuan-Kai | Taiwan | Linkou Chang Gung Memorial Hospital |
| Lee | Chia-Lin | Taiwan | Chia-Lin Orthopaedic Clinics |
| Lee | Pei-Yuan | Taiwan | Show Chwan Memorial Hospital |
| Lin | Kai Cheng | Taiwan | Kaohsiung Veterans General Hospital |
| Ma | Ching-Hou | Taiwan | E-DA Hospital |
| Wu | Chia-Chun | Taiwan | Tri-service General Hospital |
| Wu | Po-Ting | Taiwan | National Cheng Kung University Hospital |
| Yang | Shan-Wei | Taiwan | Kaohsiung Veterans General Hospital |
| Yeh | Tsu-Te | Taiwan | Tri Service General Hospital |
| Yu | Yi-Hsun | Taiwan | Linkou Chang Gung Memorial Hospital |

Table Instructor

| | | | |
|--------|------------|--------|--|
| Chen | Ji-Ying | Taiwan | Mackay Memorial Hospital |
| Cho | Yi Cheng | Taiwan | Chia Yi Branch, Taichung Veterans General Hospital |
| Chuang | Chang-Han | Taiwan | Show Chwan Memorial Hospital |
| Farn | Chui-Jia | Taiwan | National Taiwan University Hospital |
| Hou | Chun-Han | Taiwan | National Taiwan University Hospital |
| Lin | Kun Yi | Taiwan | Tri Service General Hospital |
| Tsai | Chun-Hao | Taiwan | Chinese Medical University Hospital |
| Wang | Chien-Shun | Taiwan | Taipei Veterans General Hospital |
| Weng | Chun-Jui | Taiwan | Linkou Chang Gung Memorial Hospital |
| Yang | Jni-Ming | Taiwan | Sin Lau Hospital |

Friday, May 11, 2018

| TIME | AGENDA ITEM | FACULTY |
|---------------|--|--|
| | | Moderator: PY Lee |
| 08:00 - 08:10 | Welcome and introduction | CH Chen |
| 08:10 - 08:25 | The AO world—From history to life long learning | PY Lee |
| 08:25 - 08:40 | Influence of the patient factors and the mechanism of injury on fracture management | CH Chen |
| 08:40 - 08:55 | The (soft-tissue) injury—a high priority consideration | CH Ma |
| 08:55 - 09:15 | Absolute stability: biomechanics, techniques, and fracture healing | KW Chong |
| 09:15 - 09:35 | Relative stability: biomechanics, techniques, and fracture healing | CH Chen |
| 09:35 - 09:45 | GROUP PHOTO | |
| 09:45 - 10:45 | Practical exercise 1 Internal fixation with screws and plates—absolute stability Practical exercise 2 Principle of the internal fixator using the locking compression plate (LCP) | X Teng |
| 10:45 - 11:05 | COFFEE BREAK | |
| | | Moderator: PY Lee |
| 11:05 - 11:20 | Bone healing: review of learning outcomes of eLearning module | JC Chen |
| 11:20 - 11:35 | Fracture classification: review of learning outcomes of eLearning module | CS Chen |
| 11:35 - 12:25 | Small group discussion 1 General principles, classification, concepts of stability, their influence on bone healing, and how to apply implants to achieve appropriate stability | 1. YC Chou / KC Lin 2. CH Ma / CS Chen 3. CHi Chen / PT Wu |
| 12:25 - 13:25 | LUNCH | |
| | | Moderator: YC Chou |
| 13:25 - 13:40 | Fracture fixation using locking plates—when, why, and how | TM Wong |
| 13:40 - 13:55 | Principles of diaphyseal fracture management—what is important in treating these fractures? | PT Wu |
| 13:55 - 14:10 | Reduction techniques of diaphyseal fractures—principles and methods | YC Chou |
| 14:10 - 15:10 | Small group discussion 2 Management principles for the treatment of diaphyseal fractures | 1. KC Lin / CJ Hsu 2. YC Chou / PT Wu 3. JC Chen / CS Chen |
| 15:10 - 15:30 | COFFEE BREAK | |

Friday, May 11, 2018

| TIME | AGENDA ITEM | FACULTY |
|---------------|--|--|
| | | Moderator: CH Ma |
| 15:30 - 15:45 | Principles of articular fractures management—how do they differ from diaphyseal fractures? | CH Ma |
| 15:45 - 16:00 | Reduction techniques for articular fractures—principles and methods | KC Lin |
| 16:00 - 18:00 | AO Skills Lab 1. Fracture healing 2. Mechanics of plate fixation (part 1) 3. Mechanics of plate fixation (part 2) 4. Mechanics of intramedullary fixation 5. Mechanics of bone fractures 6. Techniques of reduction 7. Torque measurement of bone screws 8. Soft tissue penetration during drilling 9. Heat generation during drilling 10. Damaged implant removal | KC Lin CS Chen PT Wu CJ Hsu YC Chou JC Chen KW Chong TM Wong YC Cho CH Chuang |
| 18:00 | END OF DAY 1 | |

Saturday, May 12, 2018

| TIME | AGENDA ITEM | FACULTY |
|---------------|--|--|
| 08:00 - 09:00 | Practical exercise 3 Intradmedullary nailing—Tibial shaft fractures—reamed IM nailing with the expert tibia nail (ETN) | SW Yang |
| | | Moderator: CJ Hsu |
| 09:00 - 09:15 | Distal radial fractures—which to fix? How to fix? | X Teng |
| 09:15 - 09:30 | Fractures of the olecranon and patella | JC Chen |
| 09:30 - 09:45 | Forearm fractures need understanding of principles for diaphyseal and articular fractures | CH Chen |
| 09:45 - 10:00 | Preoperative planning—rationale and how to do it | SW Yang |
| 10:00 - 10:15 | Proximal humeral fractures | CJ Hsu |
| 10:15 - 10:40 | COFFEE BREAK | |
| 10:40 - 11:40 | Practical exercise 4 Management of a malleolar fracture | JC Chen |
| | | Moderator: CC Wu |
| 11:40 - 11:55 | Ankle fractures—a logical approach for their fixation | KW Chong |
| 11:55 - 12:10 | Femoral neck fractures | X Teng |
| 12:10 - 12:25 | Trochanteric fractures | TM Wong |
| 12:25 - 12:40 | Distal femoral fractures—management principles | CC Wu |
| 12:40 - 12:55 | Tibial plateau fractures | KC Lin |
| 12:55 - 13:55 | LUNCH | |
| 13:55 - 14:55 | Small group discussion 3 Management principles for the treatment of articular fractures | 1. CC Wu / KC Lin 2. JC Chen / CS Chen 3. CJ Hsu / PT Wu |
| | | Moderator: CS Chen |
| 14:55 - 15:10 | Minimally invasive osteosynthesis (MIO)—when to use it? | KW Chong |
| 15:10 - 15:25 | Fractures in the growing skeleton—how are they different? | HK Kao |
| 15:25 - 15:40 | Fixation principles in osteoporotic bone—the geriatric patient | TM Wong |
| 15:40 - 16:00 | COFFEE BREAK | |
| 16:00 - 17:00 | Practical exercise 5 Fixation of a trochanteric fracture—IM nailing of a proximal femur using a proximal femoral nail anti-rotation (PFNA) | TM Wong |
| 17:00 | END OF DAY 2 | |

Sunday, May 13, 2018

| TIME | AGENDA ITEM | FACULTY |
|----------------------|---|---|
| 08:00 - 08:45 | Practical exercise 6 Tension band wiring of the olecranon | KW Chong |
| | | Moderator: PT Wu |
| 08:45 - 09:00 | Treatment algorithms for the polytrauma patient | YH Yu |
| 09:00 - 09:15 | Emergency management of pelvic fractures - a critical skill that can save lives | TT Yeh |
| 09:15 - 09:30 | Management of open fractures | PT Wu |
| 09:30 - 09:45 | Infection after osteosynthesis—how to diagnose and manage | TM Wong |
| 09:45 - 10:00 | Delayed healing—causes and treatment principles | KW Chong |
| 10:00 - 10:20 | COFFEE BREAK | |
| 10:20 - 11:15 | Small group discussion 4 Final case discussion (eg, polytrauma, complications, special fractures...) | 1. CH Chen 2. PT Wu / YH Yu 3. TT Yeh / CS Chen |
| | | Moderator: CH Chen |
| 11:15 - 11:30 | Radiation in the OR - appropriate use and hazards | CL Lee |
| 11:30 - 11:45 | Implant removal—Why, when, and how? | CS Chen |
| 11:45 - 12:45 | LUNCH | |
| 12:45 - 13:35 | Practical exercise 7 Tibial fracture treated with different external fixator frame constructs | PT Wu |
| | | Moderator: CH Chen |
| 13:35 - 13:50 | The future of fracture treatment | PY Lee |
| 13:50 - 14:05 | Violation of AO principles | CH Chen |
| 14:05 - 14:30 | Closing remarks | CH Chen |
| 14:30 | END OF THE COURSE | |

Course organization

AOTrauma Asia Pacific
AO Asia-Pacific Limited
Unit 1310-11, Tower 1, Millennium City 1,
388 Kwong Tong Road,
Kowloon, Hong Kong
Phone +852 2581 1775
Fax +852 2581 1772
Email aotap@aotrauma.org

AO funding sources

Unrestricted educational grants from different sources are collected and pooled together centrally by the AO Foundation. All events are planned and scheduled by local and regional AO surgeon groups based on local needs assessments. We rely on industrial/commercial partners for in-kind support to run simulations/skills training if educationally needed.

Course logistics

AO Courses Taiwan
Adison Lin
Phone +886 0963-608683
Email: lin.adison@ao-courses.com

Event organization compliance

In certain countries where AO has no office but offers educational events, the AO cooperates with third party companies to conduct local organization and logistics, as well as to communicate with participants in the local language. In these cases the AO has put rules and guidelines in place (Letter of Secondment, AO Foundation—Principles of AO Educational Events) to ensure that this cooperation has no impact on the curricula, scientific program, or faculty selection.

Course venue

Taichung Veterans General Hospital, Research Building
650 Taiwan Boulevard Sect. 4,
Taichung, Taiwan 40705, ROC

Course information



Evaluation guidelines

All AOTrauma courses apply the same evaluation process, either audience response system (ARS) or paper and pencil questionnaires. This will help AOTrauma to ensure that we continue to meet your training needs. In some regions, CME accreditation is dependent on the participant's evaluation results.

Intellectual property

Course materials, presentations, and case studies are the intellectual property of the course faculty. All rights are reserved. Check hazards and legal restrictions on www.aofoundation.org/legal.

Recording, photographing, or copying of lectures, practical exercises, case discussions, or any course materials is absolutely forbidden.

The AO Foundation reserves the right to film, photograph, and audio record during their events. Participants must understand that in this context they may appear in these recorded materials. The AO Foundation assumes participants agree that these recorded materials may be used for AO marketing and other purposes, and made available to the public.

Security

There will be a security check at the entrance of the building. Wearing of a name tag is compulsory during lectures, workshops, and group discussions.

No insurance

The course organization does not take out insurance to cover any individual against accidents, theft, or other risks.

Mobile phone use

Mobile phone use is not allowed in the lecture halls and in other rooms during educational activities. Please be considerate of others by turning off your mobile phone.

AO Foundation—Principles of AO Educational Events

1. Academic independence

Development of all curricula, design of scientific event programs, and selection of faculty are the sole responsibilities of volunteer surgeons from the AO network. All education is planned based on needs assessment data, designed and evaluated using concepts and evidence from the most current medical education research, and involving the expertise of the AO Education Institute (www.aofoundation.org). Industry participation is not allowed during the entire curriculum development and planning process to ensure academic independence and to keep content free from bias.

2. Compliance to accreditation and industry codes

All planning, organization, and execution of educational activities follow existing codes for accreditation of high-quality education:

- Accreditation Criteria of the Accreditation Council for Continuing Medical Education, USA (www.accme.org)
- ACCME Standards for Commercial Support: Standards to Ensure Independence in CME Activities (www.accme.org)
- Criteria for Accreditation of Live Educational Events of the European Accreditation Council for Continuing Medical Education (www.uems.eu)

Events that receive direct or indirect unrestricted educational grants or in-kind support from industry also follow the ethical codes of the medical industry, such as:

- Eucomed Guidelines on Interactions with Healthcare Professionals (www.medtecheurope.org)
- AdvaMed Code of Ethics on Interactions with Health Care Professionals (advamed.org)
- Mecomed Guidelines on Interactions with Healthcare Professionals (www.mecomed.org)

3. Branding and advertising

No industry logos or advertising (with the exception of the AO Foundation and AO Clinical Division) are permitted in the area where educational activities take place.

Sponsors providing financial or in-kind support are allowed to have a promotional booth or run activities outside the educational area with approval from the event chairperson.

4. Use of technologies and products in simulations

If case simulations are chosen as an educational method to educate skills, we only use technology approved by the AOTK System (AOTK)—a large independent group of volunteer surgeons developing and peer-reviewing new technology (more information about AOTK, its development and approval process can be found on the AO Foundation website: www.aofoundation.org).

5. Personnel

Industry staff is not allowed to interfere with the educational content

Driving excellence and empowering the next generation

AOTrauma membership

Discover the advantages of joining the leading global trauma and orthopedic community, providing its members with education, research and networking opportunities worldwide.

Apply for membership at www.aotrauma.org



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